

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

INTELLECTUAL VENTURES I, LLC;
INTELLECTUAL VENTURES II, LLC,

Plaintiffs,

v.

LENOVO GROUP LTD., LENOVO
(UNITED STATES) INC., LENOVOEMC
PRODUCTS USA, LLC, EMC
CORPORATION, AND NETAPP, INC.,

Defendants.

C.A. No. 1:16-cv-10860-PBS
LEAD CASE

PLAINTIFFS' OPENING CLAIM CONSTRUCTION BRIEF

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Plaintiffs (“Intellectual Ventures” or “IV”) hereby submit their opening brief on the construction of disputed claim terms from asserted U.S. Patent No. 6,516,442 (the “’442 patent”).¹ In this case, Intellectual Ventures has asserted infringement of claims 2, 8, 11, 25 and 31 of the ’442 patent.

I. INTRODUCTION

The ’442 patent discloses a novel symmetric multiprocessor computer system that utilizes packet-based communication in order to improve data processing performance. The invention improves upon prior art systems, which used a shared-bus system susceptible to bottlenecks in data traffic, by employing a switch fabric that networks multiple microprocessors and memories and allows for multiple simultaneous data transactions or transfers.

There are only three terms in dispute—“packet,” “error correction,” and “error correction code.” Intellectual Ventures’ proposed constructions should be adopted as they accurately reflect the ordinary meaning of the claim terms as used in the patent specification and claims. In contrast, Defendants’ proposed constructions should be rejected as they are inconsistent with the ordinary meaning of the terms and unsupported by the intrinsic evidence. Defendants’ proposed constructions also improperly exclude preferred embodiments disclosed in the patent.

II. BACKGROUND

The ’442 patent is entitled “Channel Interface and Protocols For Cache Coherency In A Scalable Symmetric Multiprocessor System.” While the ’442 patent issued in 2003, it claims priority from a patent application filed in 1997.

¹ For the Court’s convenience, a copy of the ’442 patent is attached as Exhibit 1. All exhibits referenced herein are attached to the declaration of Shani Williams.

The invention of the '442 patent relates to new designs for computer systems that use multiple processors and multiple memory units. At the time of the invention, prior art symmetric multiprocessor (SMP) systems used a shared data bus to carry information between the multiple microprocessors and a memory device. *See, e.g.*, '442 patent, Fig. 1. These shared buses processed transactions or data transfers serially, which promotes cache coherency because the “serial availability of the bus insures that transactions are performed in a well-defined order.” *Id.* at 1:32–33. But “the serial availability of the bus limits the scalability of the SMP system” because, “[a]s more microprocessors are added, eventually system performance is limited by the saturation of the shared system bus.” *Id.* at 1:36–40. In other words, since the processors and the memories all shared the same communication channel, they had to take turns using the channel, thereby creating the potential for bottlenecks.

The invention of the '442 patent addressed this problem in the prior art systems, providing a new SMP architecture that utilizes a switch fabric that networks multiple microprocessors and memories. The “switched fabric (switched matrix) for data transfers provides multiple concurrent buses that enable greatly increased bandwidth between processors and shared memory.” *Id.* at 1:50–53. The switch fabric effectively gives each data transfer its own bus, which allows for multiple simultaneous transfers.

An essential feature of the invention of the '442 patent is its utilization of packet-based communication. In particular, the information to be transferred is broken down into discrete units called “packets,” which are transferred between the multiple microprocessors and memories by individual channels and switched or routed through the switch fabric. *See, e.g.*, '442 patent, Figs. 2, 3. As discussed further below, each packet contains data and control information. The control information includes the address information identifying the destination and source of the packet.

Using packet-based communication allows the data to be routed by switches configured to transmit the packets, as the control information in the packets allows the switches to transfer the packets to the correct destination. Without this control information, the disclosed packet-switching system with multiple processors and memory devices, such as that depicted in Figures 2 and 3 of the '442 patent, simply could not function—the data would become an incoherent mess.

Another important feature of the system implemented by the '442 patent inventors is error correction. The '442 patent discloses using interfaces between the various devices (*e.g.*, processors and memories) and the switch fabric, thus allowing error correction to be performed “independently on both sides” of the channel. '442 patent at 22:58–65. As discussed further below, those interfaces use an error correction code (ECC) to identify the presence of erroneous data in a packet. For example, the interfaces can set a flag bit in a packet's control information to indicate the presence of an error in the packet. When the interface on the receiving end receives a packet with an error indicator, it sends a request back to the source to retry or resend the transmission (referred to in the patent specification as a “retry request”). Because error correction is performed on both sides of the channel, the channel does not shut down when an error occurs, but rather “it may still be transmitting correctly to the other side!” *Id.* at 22:58–60.

These novel features of the patented system greatly improved upon the prior art systems by allowing for improved processing performance and reliability in increasingly complex symmetric multiprocessor systems.

III. CLAIM CONSTRUCTION PRINCIPLES

“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.” *U.S. Surgical Corp. v. Ethicon*, 103 F.3d 1554, 1568 (Fed. Cir.

1997). Interpreting the proper meaning and scope of a patent claim is a question of law exclusively for the Court to decide. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995).

The “claim construction inquiry . . . begins and ends in all cases with the actual words of the claim.” *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002). Thus, “quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular terms.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314–15 (Fed. Cir. 2005). “To begin with, the context in which a term is used in the asserted claim can be highly instructive.” *Id.* The patent specification can also shed light on the meaning of claim terms. *Id.* at 1315.

When conducting a claim construction inquiry, “district courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.” *O2 Micro Int’l v. Beyond Innovation Tech.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008); *see also Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010). Simply put, claim construction is “not an obligatory exercise in redundancy.” *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Where a term is used in accordance with its plain meaning, the court should not re-characterize it using different language. *See Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1380 (Fed. Cir. 2001).

Indeed, “[t]he purpose of claim construction is to give claim terms the meaning understood by a person of ordinary skill in the art at the time of invention,” and “[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Massachusetts Inst. of Tech. v. Shire Pharm., Inc.*, 839 F.3d 1111, 1118 (Fed. Cir. 2016). “Properly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.*;

see also Phillips, 415 F.3d at 1313 (“[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.”). Thus, the task of comprehending the claims often “involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. Without a clear and unambiguous disclaimer, courts “do not import limitations into claims from examples or embodiments appearing only in a patent’s written description, even when a specification describes very specific embodiments of the invention or even describes only a single embodiment.” *JVW Enters. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1335 (Fed. Cir. 2005). Similarly, statements during patent prosecution do not limit the claims unless the statement is a “clear and unambiguous disavowal of claim scope.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003) (“[W]e have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope.”).

IV. AGREED CONSTRUCTIONS

The parties have agreed on the following constructions:

Term	Agreed Construction
switch fabric	a data switching circuitry having a matrix or similar arrangement of interconnections
channel	a general-purpose, high-speed, point-to-point, full-duplex, bi-directional interconnect bus

V. DISPUTED CONSTRUCTIONS

A. “packet”

IV’s Proposed Construction	Defendants’ Proposed Construction
a formatted transmission unit including at least data and control information	a basic unit of transport over a channel

The term “packet” should be construed to mean “a formatted transmission unit including at least data and control information.” This definition is consistent with the term’s ordinary meaning as understood by persons of ordinary skill in the art at the time of the invention. Declaration of Dr. Richard D. Wesel (“Wesel Decl.”) ¶¶ 28–35. Furthermore, both intrinsic evidence and extrinsic evidence, including technical dictionary definitions, support this construction of the term.

Claims must be construed in accordance with the context in which they are used, and here, the invention of the ’442 patent is in the context of a computerized packet switching system. *See Phillips*, 415 F.3d at 1313–15. The concept of packet switching for wide-area network communications was developed in the 1960s and well-understood by persons of ordinary skill in the art by the time of the invention in the late 1990s. It refers to a digital data transmission process where the data is broken down into discrete units and packaged with control information into packets for transfer. Wesel Decl. ¶¶ 21–26, 28–35; Exs. 2–8. For example, in the ’442 patent, when one device (*e.g.*, processor) attempts to send data to another device (*e.g.*, memory), the data is broken down into discrete units and packaged with control information so that it can be transferred. These packets are then passed to switches configured to utilize the control information to route the data to the correct location. *Id.*

In order for a packet switching system to function, in addition to the data itself (sometimes referred to as the “payload”), each packet must contain control information (written into what is

sometimes referred to as the packet “header”). The control information includes the address information for the destination and source of the packet. Each packet may also include additional control information such as the total number of packets in the sequence and the sequence number (the place in a sequence of multiple packets where the packet belongs). In other words, the control information tells the switches where to send the packets and enables the system to reassemble the data in the correct order. Thus, a packet switching system with multiple processors and memory devices, such as that depicted in Figure 2 of the ’442 patent, simply could not function without this essential control information. Wesel Decl. ¶ 32.

In the context of packet switching, the term “packet” is well-understood by persons of ordinary skill in the art to mean a formatted transmission unit including at least data and control information. The ’442 patent’s usage of the term “packet” is entirely consistent with this ordinary meaning. *See, e.g.*, ’442 patent at 4:37–40 (“Note that the Data Switch is packet based. Every transfer over the Data Switch starts with a Channel Protocol command (playing the role of a packet header) and is followed by zero or more data cycles (the packet payload).”); 6:52–63 (describing a preferred embodiment where the packet is an 80-bit frame including 64 bits of “core-to-core” data, 8 bits of control information, 8 bits of error correction code)²; 7:6–27 (explaining that the control information is an essential part of a packet with respect to the switch fabric (the CIB/core interface) because that control information is used for switching, but not for operation within the core, and also noting that different portions of the same message might not arrive contiguously (in

² Different embodiments might be formatted differently with different pre-defined sizes for the data and control information within the packet. A person of ordinary skill in the art would understand that, regardless of format, all packets must have at least data and control information. Wesel Decl. ¶¶ 25, 34.

order) and thus would need to be reconstructed using the control information); *see also* Wesel Decl. ¶ 33.

Intellectual Ventures’ proposed construction is also consistent with dictionary definitions of the term “packet.” For example, the 1988 IEEE Standard Dictionary of Electrical and Electronics Terms defines packet a “group of binary digits *including data and control elements*.” Ex. 2.³

packet (data communication). A group of binary digits including data and control elements which is switched and transmitted as a composite whole. The data and control elements and possibly error control information are arranged in a specified format. 12

The IEEE Dictionary definition of the term “packet switching” as a “data transmission process, utilizing *addressed* packets” further supports that a packet must contain control (address) information. *Id.*

The Academic Press Dictionary of Science and Technology (1992) similarly defines “packet” as “a part of a message sent over a packet-switching network, *consisting of control, sequencing, and addressing information, and a section of message information [data]*.” Ex. 3.

packet *Computer Science.* a part of a message sent over a packet-switching network, consisting of control, sequencing, and addressing information, and a section of message information. *Biology.* a somewhat cubical cluster of organisms formed as a result of cell division in three planes.

And “packet switching” is defined as “a method of network communication in which user messages are broken into short segments and *packaged with control, addressing, and sequence information to form packets*[.]” *Id.*

³ All emphases added.

The Microsoft Press Computer Dictionary (1994) definition submitted by EMC during the IPR also supports Plaintiffs’ proposed construction. That dictionary provides that “[i]n packet-switching networks, a packet is defined more specifically as a transmission unit of fixed maximum size that consists of binary digits representing ***both data and a header containing an identification number, source and destination addresses***, and, sometimes, error control data.” Ex. 4.⁴

Various online sources also make clear that in the context of packet switching, a packet contains data and control (address) information. *See, e.g.*, Ex. 5 (“each packet has the following information written in its header section: The destination address[;] The source address[;] Total number of pieces[;] The sequence number (Seq#) needed to enable reassembly[.] After reaching the destination through different routes, the packets are rearranged to form the original message.”); Ex. 6 (“Packet-switched describes the type of network in which relatively small units of data called packets are routed through a network based on the destination address contained within each packet.”); Ex. 7 (“Each packet contains address information that identifies the sending computer and intended recipient.”); Ex. 8 (“Packet switching is a method for sending data whereby the data is divided in packets. Each packet is given a header containing information of the destination. Each

⁴ This dictionary also provides a “general usage” definition of “packet” as “a unit of information transmitted as a whole from one device to another on a network.” Ex. 4. But it is clear that the packet-switching definition should apply here given that the ’442 patent is in the field of packet switching. *See Phillips*, 415 F.3d at 1313 (“Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.”); *Mass. Inst. of Tech.*, 839 F.3d at 1118 (“There is a heavy presumption that claim terms are to be given their ordinary and customary meaning,” and, “[p]roperly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.”).

packet is forwarded through the network to the destination using this information. At the destination the data has to be reassembled from the received packages.”).⁵

Defendants’ proposed construction for “packet” as “a basic unit of transport over a channel” is overly broad and should be rejected. This proposal purports to rely on a statement in the patent specification which states that “[a] ‘packet’ is the basic unit of transport over a channel.” ’442 patent at 6:52. But this statement (referred to herein as the “packet sentence”) clearly is *not* intended to function as a lexicographic definition. “To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term,’ and ‘clearly express an intent to define the term.’” *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014). This standard for finding lexicography is “exacting.” *Id.*; *see also In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (“Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision.”).

Here, nothing in the patent specification or file history evidences a clear intent to re-define the term “packet” in a manner “contrary to or inconsistent with its ordinary meaning.” *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed. Cir. 1990); *see also Hoechst Celanese Corp. v. BP Chemicals Ltd.*, 78 F.3d 1575, 1578 (Fed. Cir. 1996) (“A technical term used in a patent document is interpreted as having the meaning that it would be given by persons experienced in the field of the invention, unless it is apparent from the patent and the prosecution history that the inventor used the term with a different meaning.”). To the contrary, the statement that a packet is the basic unit of transport over a channel is entirely consistent with the ordinary

⁵ The references to circuit switching in Exhibits 5 through 8 are inapplicable. Wesel Decl. ¶¶ 29–31.

meaning of packet in the context of packet switching (a formatted transmission unit including at least data and control information).

The problem with Defendants’ argument is that the purported lexicographic definition of “packet” does not define packet at all. It merely states that a packet is the unit of measure for communication on the channel. Effectively, the statement provides information about the channel—namely, that packets are transported over the channel. The packet sentence essentially explains that a packet is the basic unit of transport in the described packet-based communication system, but says nothing about what a packet is or contains. Indeed, the packet sentence appears under a section in the specification entitled “*Channel* Overview and Terminology.” Thus, a person of ordinary skill would understand the packet sentence to be describing an aspect of the channel—not a definition of “packet.”

While it is true that under certain circumstances quotation marks can be indicative of a special definition, here it is clear from the context of the patent that the quotation marks are simply meant to introduce or emphasize the word “packet” as a term of art in relation to the channel. Similarly, the patent provides that “A ‘transaction’ is a concept in the higher-level protocol sent over the Channel by the core logic.” ’442 patent at 7:20–21. Of course, this sentence makes no sense as a definition for “transaction,” just as the packet sentence makes no sense as a definition for “packet.” Like the packet sentence, the transaction sentence simply provides information about the channel.⁶

⁶ Imagine a patent directed to a mail delivery system that contained a sentence reading “A ‘bicycle’ is the basic unit of transportation for a letter.” If a claim recited “a bicycle,” that claim would not read upon mail delivery by submarine merely because a submarine could be used to transport a letter. That a bicycle is a basic unit of transportation does not define what a bicycle is or mean that all forms of transportation are bicycles. Similarly, that a “packet” can be a basic unit of transport

Moreover, Defendants agree that the term “channel” is specially-defined in the patent as “a general-purpose, high-speed, point-to-point, full-duplex, bi-directional interconnect bus.” *See* ’442 patent at 6:39–41 (“The Channel of the present invention is a general-purpose, high-speed, point-to-point, full-duplex, bi-directional interconnect bus[.]”). But in the patent, the term “channel” is *not* set off in quotation marks as an indication that it has a special meaning, further illustrating that the patentee did *not* intend to use quotation marks as the mechanism to introduce specially-defined terms. *See, e.g., CSP Techs., Inc. v. Sud-Chemie AG*, No. 4:11-CV-00029-RLY, 2013 WL 2421943, at *11 (S.D. Ind. June 3, 2013), *aff’d*, 643 F. App’x 953 (Fed. Cir. 2016) (rejecting purported lexicographic definition of the term “moisture tight” despite the fact that the term appeared in quotation marks followed by the word “means” in the patent specification, finding that “the specification does not use clear, deliberate, and precise words from which one of ordinary skill in the art would understand” to provide a special definition).

To the extent that Defendants intend to rely on the PTAB’s construction of “packet” in its Final Written Decision, this argument fails. The PTAB applies the broadest-reasonable-interpretation standard to construe claims in an IPR, and its construction is thus not binding on this Court, which must construe the terms according to the “meaning understood by a person of ordinary skill in the art at the time of invention.” *Mass. Inst. of Tech.*, 839 F.3d at 1118; 37 C.F.R. § 42.100(b).

Here, a person of ordinary skill in the art would understand that the ’442 patent uses the term “packet” to mean a formatted transmission unit including at least data and control

over a channel does not define what constitutes a packet or that any form of data sent over a channel qualifies as a packet.

information. Wesel Decl. ¶¶ 28–35. This construction is consistent with the term’s ordinary meaning, the intrinsic evidence, and extrinsic technical dictionary definitions of the term.

B. “error correction”

IV’s Proposed Construction	Defendants’ Proposed Construction
correcting errors in data	reconstruction of erroneous data

The term “error correction” should be construed to mean “correcting errors in the data.” This construction is consistent with the patent specification and the claim language, as well as the plain meaning of the term in the context of the ’442 patent.

Defendants’ proposal should be rejected for multiple reasons. First, nowhere in the ’442 patent does it mention “reconstructing” erroneous data. In fact, the word “reconstruct” appears nowhere in the patent at all. Defendants’ proposal is not only inconsistent with the plain meaning of the term, but also completely unsupported by the intrinsic evidence.

Even worse, Defendants’ proposal improperly excludes preferred embodiments in the patent. Such a construction “is rarely, if ever, correct.” *SanDisk Corp. v. Memorex Prods.*, 415 F.3d 1278, 1285–86 (Fed. Cir. 2005) (reversing district court construction that excluded embodiments described in the patent specification). Throughout the entire ’442 patent, error correction is discussed in the context of a “retry request” (*i.e.*, a request to resend the erroneous data), not in the context of reconstructing erroneous data. *See, e.g.*, ’442 patent at 15:11–13 (“When a receive error is detected (by the receipt of bad ECC, or possibly because the receive FIFO overflows), the CIB logic will initiate a **retry procedure**.”); 16:53–56 (“Although the error detection code actually does provide information for single bit error correction, this is **not used** for Channel data. **Instead the data transfer is retried using the transport retry protocol.**”); 19:3–5 (the CIB logic “must generate ECC, detect errors, and invoke a **retry procedure** for error

recovery”); 19:55–56 (“ECC error detection will put the CIB logic in **“error retry” mode**); 20:10–14 (discussing “Channel Transport and **Retry Procedure**”); 21:5–22:57 (discussing “**Error Retries**”; the “transport protocol enters a mode where ***the packet received in error is retried***”); Claim 2 (“the interfaces are configured . . . to check the error correction codes in the packets being received over the channels and to ***transfer a retry request if one of the packets being received has an error***”); Claim 36 (“ . . . said first channel interface checks said error correction code within one cycle of said first clock after receiving a first packet from said second channel interface to determine whether an error has occurred, and if so, notifies said second channel interface to ***re-send*** said first packet”); Claim 37 (“ . . . said channel protocol specifies the number of times said first channel interface will notify said second channel interface to ***re-send*** said first packet”).

Defendants’ proposal excludes each of the foregoing embodiments, and it is well-established that “a claim construction that excludes a preferred embodiment . . . ‘is rarely, if ever correct and would require highly persuasive evidentiary support.’” *Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1308 (Fed. Cir. 2003). Here, Defendants can present no support for their proposed construction.

C. “error correction code”

IV’s Proposed Construction	Defendants’ Proposed Construction
a code that can be used to identify the presence of erroneous data in a packet	a code that can be used to correct erroneous data

It is clear from the context of the ’442 patent that “error correction code” (also referred to as ECC) means “a code that can be used to identify the presence of erroneous data in a packet.” Throughout the entire patent, ECC is discussed in the context of detecting or checking for errors and then, if an error is detected, sending a retry request. Indeed, some instances in the specification

use “error correction code” or “ECC” and “error detection code” interchangeably. *See, e.g.*, ’442 patent at 15:11–13 (“***When a receive error is detected (by the receipt of bad ECC***, or possibly because the receive FIFO overflows), the CIB logic will initiate a retry procedure.”); 15:49–50 (“The transport protocol internally deals with 64 data bits, 8 ***error detection bits***, and 8 control bits”; see also the table at lines 54–62 mapping out the 8 error detection bits as “ecc”); 16:51–56 (“The ecc[7:0] field provides ***error DETECTION*** coverage over the full packet[.] . . . Although the ***error detection code*** actually does provide information for single bit error correction, this is not used for Channel data. Instead the data transfer is retried using the transport retry protocol.”)⁷; 17:7–9 (“The 70 bits are 64 data bits, 2 control bits, and 4 ***check (ECC) bits***”); 19:3–5 (“the CIB logic is more complex than this because it must ***generate ECC, detect errors***, and invoke a retry procedure for error recovery”); 19:42–48 (“The data must be ***ECC-checked***; . . . ***ECC checking*** is done in parallel with sending the data back to the core logic; if an ***ECC error is detected***, . . .”); 19:55–56 (“***ECC error detection*** will put the CIB logic in “error retry” mode); 20:23–24 (“If no ***errors are indicated*** (either ***through the ECC bits*** . . .”); 21:8–9 (“A packet can be received with ***bad ECC (as detected by the 8-bit ECC field*** transmitted with every packet.”).

Defendants’ proposed construction, on the other hand, excludes the foregoing embodiments and finds no support in the specification. Nothing in the patent indicates that the ECC, by itself, is used to correct errors in the data. Rather, as discussed above, it is clear from the face of the patent that in a preferred embodiment, errors are corrected by initiating a retry request and resending the packet containing the error. In order to accept Defendants’ proposal, the Court

⁷ This embodiment makes clear that when an ECC error is detected, the data transfer is retried. Defendants’ proposed constructions for “error correction” and “error correction code” thus cannot be correct.

would have to ignore the multitude of references to ECC error *detection* in the '442 patent specification. Of course, this would be improper. Claim terms must be construed "in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313.

VI. CONCLUSION

As discussed above, each of Intellectual Ventures' proposed constructions are supported by the intrinsic evidence and the ordinary meaning of terms as understood by skilled artisans reading the '442 patent. Defendants, by contrast, propose constructions that are directly contradicted by the intrinsic evidence. As such, the Court should adopt the constructions proposed by Intellectual Ventures and reject Defendants' proposed constructions.

Dated: October 5, 2018

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CERTIFICATE OF SERVICE

I hereby certify that this document, filed through the ECF system, will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (“NEF”) on October 5, 2018.

/s/ Brian D. Ledahl
Brian D. Ledahl (*pro hac vice*)